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中国异饰肛螽属四新种记述 (直翅目, 螽斯总科, 蛩螽科)

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摘　要　记述了中国异饰肛螽属 Acosmetura 4 新种和 1 新组合, 并提交该属的分种检索表。新种的模式标本均保存在中国科学院上海昆虫博物馆。

关键词　异饰肛螽属, 蛩螽科, 新种, 中国.
中图分类号　Q969.263.1

异饰肛螽属 Acosmetura Liu, 2000

Acosmetura Liu, 2000. Zool. Res., 21 (3): 220.

异饰肛螽属 Acosmetura 由刘宪伟 2000 年建立, 模式种为短尾异饰肛螽 Acosmetura brevicerca Liu, 2000。

属征　体小形, 相对较结实, 短翅类型。雄性前胸背板沟后区非凸形, 侧片后部趋狭。前足胫节听器为开放型; 后足胫节腹面具 2 对端距。前翅隐藏于前胸背板之下, 雌性侧置。雄性外生殖器革质, 裸露。雌性产卵瓣较宽, 边缘光滑。刘宪伟、周顺 (2007) 对中国异饰肛螽属做了修订, 报道了四川峨眉山 1 新种即峨眉异饰肛螽 A. emeica Liu et Zhou, 并将分布中国四川的 Xiphidiopsis yachowensis Tinkham, 1944 移到异饰肛螽属。迄今为止, 该属共记载 6 种, 均分布于中国。本文记述了 4 新种, 即双叶异饰肛螽 Acosmetura bilobata sp. nov.; 铗尾异饰肛螽 Acosmetura forcipata sp. nov.; 隆线异饰肛螽 Acosmetura carinata sp. nov. 和长尾异饰肛螽 Acosmetura longicercata sp. nov., 同时认为产于四川峨眉山的 Phlugiolopsis platycata Shi et Zheng, 1994 应移到异饰肛螽属。新种模式标本保存在中国科学院上海昆虫博物馆。

中国异饰肛螽属的种类检索表

1 (18)　体背面具褐色纵带
2 (9)　后足股节端部非暗黑色
3 (6)　雄性尾须甚短, 从背面不可见; 雌性下生殖板近圆形
4 (5)　雄性第 10 腹节背板裂叶尖形, 生殖器端部向上弯曲; 雌性下生殖板具中隆线 …………………… 短尾异饰肛螽 A. brevicerca Liu, 2000
5 (4)　雄性第 10 腹节背板裂叶钝圆形, 生殖器端部扁平; 雌性下生殖板无中隆线 …………………… 双叶异饰肛螽, 新种 A. bilobata sp. nov.
6 (3)　雄性尾须较长, 从背面可见; 雌性下生殖板非圆形
7 (8)　雌性下生殖板具纵沟; 雄性尾须钳状 …………………… 铗尾异饰肛螽, 新种 A. forcipata sp. nov.
8 (7)　雌性下生殖板长大于宽, 后缘内凹; 雄性未知 …………………… 凹缘异饰肛螽 A. emarginata Liu, 2000
9 (2)　后足股节端部暗黑色
10 (11)　前胸背板侧片周缘具褐色边; 雄性尾须完全隐藏于第 10 腹节背板之下; 雌性下生殖板宽大, 近圆形 …………………… 宽板异饰肛螽 A. platycata (Shi et Zheng, 1994)
11 (10)　前胸背板侧片周缘无黑褐色边
12 (15)　后足股节内和外侧无暗褐色斜条纹
13 (14)　雌性下生殖板无侧隆线, 后缘中央具浅凹口 …………………… 黑带异饰肛螽 A. nigrovittata (Liu et Bi, 1994)
14 (13)　雌性下生殖板具侧隆线, 后缘截形 …………………… 隆线异饰肛螽, 新种 A. carinata sp. nov.
15 (12)　后足股节内和外侧具暗褐色斜条纹
16 (17)　雄性第 10 腹节背板后缘中央具 1 个小缺刻; 雌性下生殖板两侧具突起 …………………… 长尾异饰肛螽, 新种 A. longicercata sp. nov.
17 (16)　雄性第 10 腹节背板后缘中央具 1 个小刺; 雌性未知 …………………… 黑膝异饰肛螽 A. nigrogeniculata (Liu et Wang, 1998)
18 (1)　体背面无褐色纵带
19 (20)　雄性尾须强内弯, 几乎完全隐藏于第 10 腹节背板之下; 雌性下生殖板无侧隆线 …………………… 雅安异饰肛螽 A. yachowensis (Tinkham, 1944)
20 (19)　雄性尾须较直, 大部分裸露于第 10 腹节背板之外; 雌性下生殖板具明显的侧隆线 …………………… 峨眉异饰肛螽 A. emeica Liu et Zhou, 2007

1　双叶异饰肛螽, 新种 Acosmetura bilobata sp. nov.　(图 1～4)

雄性　体小, 结实。头较短宽, 头顶呈钝圆锥形突出, 背面具沟; 复眼小, 圆形, 突出; 下颚须端节略长于亚端节。前胸背板沟后区不扩张, 后缘宽圆, 侧片较低, 后部趋狭, 无肩凹。前翅小, 完全隐藏于前胸背板之下, 相互重叠。前足胫节腹面内、外刺排列为 3, 3 (1, 1) 型。后足胫节背面内缘具 28 个刺, 外缘具 26 个刺, 端距 3 对。第 10 腹节背板后缘具圆三角形的裂叶 (图 1)。尾须较短,

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端部弯钩状，隐藏在第 10 腹节背板之下（图 2）；下生殖板延长，后缘中央具凹口（图 3），腹突较短小；外生殖器裸露，具扁平的端部。

雌性　前翅不超过前胸背板后缘，侧置。第 10 腹节背板后缘圆截形，中央凹陷；肛上板圆三角形，背面具纵沟。尾须短，圆锥形；下生殖板近圆形，后缘微凹（图 4）。产卵瓣较宽，略向上弯曲，边缘光滑。

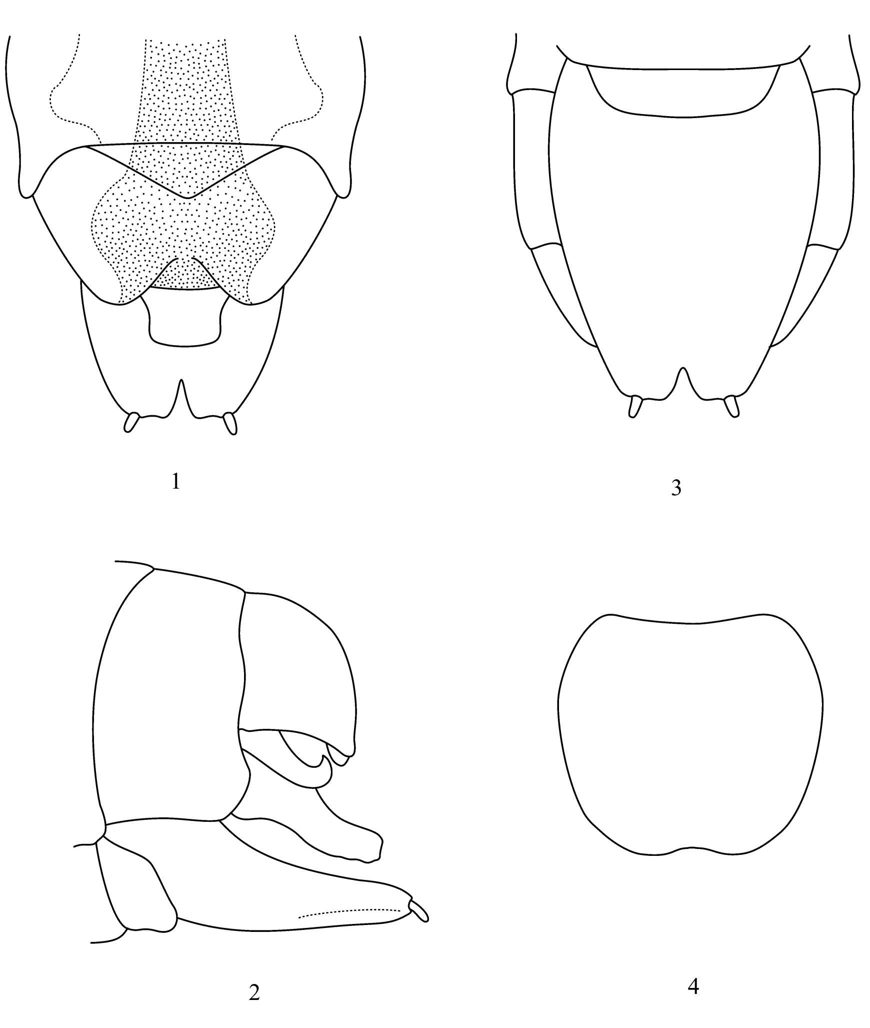


图 1～4　双叶异饰肛螽，新种 *Acosmetura bilobata* sp. nov.
1. 雄性腹端背面观（end of male abdomen, dorsal view）　2. 雄性腹端侧面观（end of male abdomen, lateral view）
3. 雄性腹端腹面观（end of male abdomen, ventral view）　4. 雌性下生殖板腹面观（subgenital plate of female, ventral view）

体色　淡绿色，背面具 1 条淡褐色纵带，纵带的两侧各具 1 条黄色纵条纹，触角具暗色环，后足股节外侧具褐色斜条纹。

体长：♂7.0 mm，♀10.0 mm，前胸背板长：♂3.3 mm，♀3.0 mm，前翅长：♂1.5 mm，♀0.8 mm，后足股节长：♂7.0 mm，♀7.5 mm，产卵瓣长：5.0 mm。

正模 ♂，副模：8 ♂♂，14 ♀♀，四川（天全县喇叭河保护区黑悬沟保护站），2 000 m，2007-07-28，刘宪伟等采。

词源：学名源于拉丁词“bilobatus”（具双叶的）变化词尾而来，意指雄性第 10 腹节背板后缘两个突出的叶。

分布：中国（四川）。

新种近似短尾异饰肛螽 *A. brevicerca* Liu, 2000 和雅安异饰肛螽 *A. yachowensis*（Tinkham, 1944），与前种的区别在于雄性第 10 腹节背板具圆三角形的裂叶，雄性外生殖器端部扁平和雌性下生殖板无中隆线。与后者的区别在于体背面具褐色纵带，后足股节内和外侧具褐色条纹和雄性尾须端部呈弯钩状。

2　铗尾异饰肛螽，新种 *Acosmetura forcipata* sp. nov.（图 5～8）

雄性　体小，结实。头较短宽，头顶呈钝圆锥形突出，背面具沟；复眼小，圆形，突出；下颚须

端节略长于亚端节。前胸背板沟后区不扩张，后缘宽圆，侧片较低，后部趋狭，无肩凹。前翅小，完全隐藏于前胸背板之下，相互重叠。前足胫节腹面内、外刺排列为 4，3 (1，1) 型。后足胫节背面内缘具 18～19 个刺，外缘具 20～21 个刺，端距 3 对。第 10 腹节背板后缘中央具小的凹口 (图 5)。尾须较长，钳状；下生殖板延长，后缘平直 (图 7)，腹突较短小；外生殖器稍裸露，端部具弱的中凹。

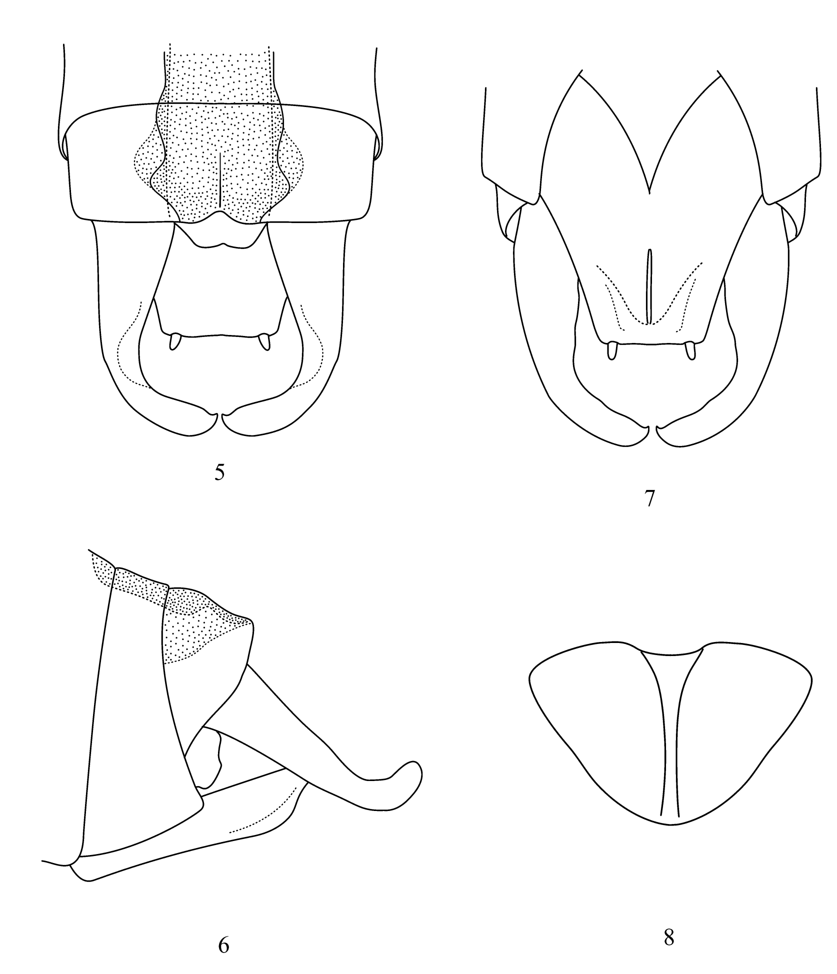


图 5～8 铗尾异饰肛螽，新种 *Acosmetura forcipata* sp. nov.
5. 雄性腹端背面观 (end of male abdomen, dorsal view) 6. 雄性腹端侧面观 (end of male abdomen, lateral view)
7. 雄性腹端腹面观 (end of male abdomen, ventral view) 8. 雌性下生殖板腹面观 (subgenital plate of female, ventral view)

雌性 前翅不超过前胸背板后缘，侧置。第 10 腹节背板后缘截形，中央凹陷；肛上板圆三角形，背面具纵沟。尾须短，圆锥形；下生殖板近圆三角形，中央具纵沟 (图 8)。产卵瓣较宽，略向上弯曲，边缘光滑。

体长：♂9.0～10.0 mm，♀9.5～10.0 mm，前胸背板长：♂3.0 mm，♀3.0 mm，前翅长：♂0.8 mm，♀0.5 mm，后足股节长：♂7.5～8.5 mm，♀9.0 mm，产卵瓣长：4.5～5.0 mm。

正模 ♂，副模：3 ♂♂，7 ♀♀，四川 (石棉县栗子坪保护区公益海保护站)，2 100 m，2007-07-22～25，刘宪伟等采。

词源：学名源于拉丁词 "forcipatus" (铗状的) 变化词尾而来，意指雄性尾须的形状。

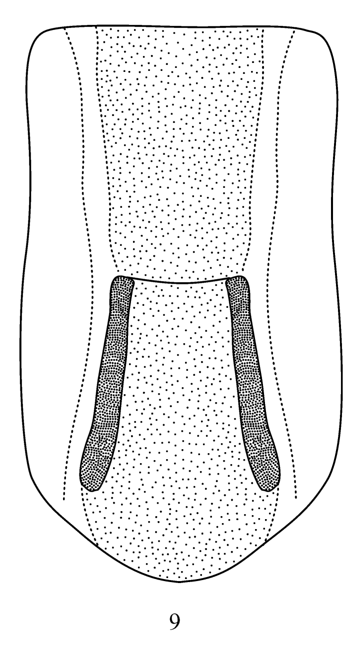
分布：中国 (四川)。

新种近似凹缘异饰肛螽 *A. emarginata* Liu，2000，区别在于雌性下生殖板具纵沟和雄性尾须钳状。

3 隆线异饰肛螽，新种 *Acosmetura carinata* sp. nov. (图 9～10)

雌性 体小，结实。头较短宽，头顶呈钝圆锥形突出，背面具沟；复眼小，圆形，突出；下颚须端节略微长于亚端节。前胸背板沟后区不扩张，后缘宽圆，侧片较低，后部趋狭，无肩凹。前翅小，完全隐藏于前胸背板之下，侧置。前足胫节腹面内、外刺排列为 4，4 (1，1) 型。后足胫节背面内缘具 25 个刺，外缘具 24 个刺，端距 3 对。第 10 腹节背板后缘微波曲形，肛上板圆三角形。尾须较短，圆

锥形; 下生殖板基半部宽, 中部之后骤然趋狭, 具平行的侧边, 后缘圆截形 (图 10) ; 表面凹陷, 具明显的侧隆线。


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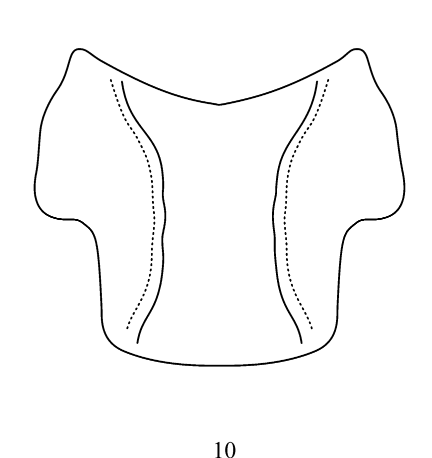

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图 9～10 隆线异饰肛螽, 新种 Acosmetura carinata sp. nov.
9. 前胸背板背面观 (pronotum, dorsal view) 10. 雌性下生殖板腹面观 (subgenital plate of female, ventral view)

雄性 未知。

体淡绿色, 背面具褐色纵带。前胸背板沟后区具 2 条黑色纵条纹 (图 9) , 后足股节端部暗黑色。

♀ 体长 11.0 mm, 前胸背板 4.5 mm, 前翅 1.0 mm, 后足股节 9.0 mm, 产卵瓣 6.5 mm。

正模 ♀, 四川 (峨眉山市峨眉山五显岗) , 700 m, 2007-08-04, 刘宪伟等采。

词源: 学名源于拉丁词 "carinatus" (具隆线的) 变化词尾而来, 意指雌性下生殖板具明显的隆线。

分布: 中国 (四川) 。

新种近似黑带异饰肛螽 A. nigrovittata (Liu et Bi, 1994) , 区别在于雌性下生殖板具侧隆线和后缘圆截形等。

4 长尾异饰肛螽, 新种 Acosmetura longicercata sp. nov. (图 11～15)

雄性 体小, 结实。头较短宽, 头顶呈钝圆锥形突出, 背面具沟; 复眼小, 圆形, 突出; 下颚须端节略微长于亚端节。前胸背板沟后区不扩张, 后缘宽圆, 侧片较低, 后部趋狭, 无肩凹。前翅小, 完全隐藏于前胸背板之下, 相互重叠。前足胫节腹面内、外刺排列为 4, 4 (1, 1) 型。后足胫节背面内缘具 28 个刺, 外缘具 26 个刺, 端距 3 对。第 10 腹节背板后缘中央具小的凹口 (图 11) 。尾须较长, 强弯曲 (图 12) ; 下生殖板延长, 后缘略突出 (图 13) , 腹突较短; 外生殖器裸露, 三角形, 具隆起的中脊 (图 14) 。

雌性 前翅不超过前胸背板后缘, 侧置。尾须短, 圆锥形。下生殖板近圆形, 基部两侧具明显的突起 (图 15) , 后缘略直, 具中隆线。产卵瓣较宽, 微向上弯曲, 边缘光滑。

体色 淡绿, 前胸背板沟后区具 2 条黑色纵条纹, 后足股节端部暗黑色, 腹部背面具褐色纵带。

体长: ♂10.0 mm, ♀12.0 mm, 前胸背板: ♂5.0 mm, ♀5.0 mm, 前翅: ♂1.5 mm, ♀0.5 mm, 后足股节: ♂10.0 mm, ♀11.0 mm, 产卵瓣: 6.5 mm。

正模 ♂, 副模 3 ♀♀, 浙江 (临安县西天目山) , 1 100 m, 2007-07-01, 毕文烜采。

词源: 学名源于拉丁词 "longus" (长) + 拉丁词 "cercatus" (尾的) 变化词尾组合而成, 意指雄性延长的尾须。

分布: 中国 (浙江) 。

新种近似黑膝异饰肛螽 A. nigrogeniculata (Liu et Wang, 1998) , 区别在于雄性第 10 腹节背板后缘中央具 1 个小的缺刻和雌性下生殖板具侧突起。

5 宽板异饰肛螽 Acosmetura platycata (Shi et Zheng, 1994) comb. nov.

Phlugiolopsis platycata Shi et Zheng, 1994. 山西师范大学学报, 8 (1) : 44-46; Shi et Ou, 2005. 动物分类学报, 30 (2) : 359.

这个种通常与吟螽属 Phlugiolopsis 的区别在于体

形相对较结实, 雄性第 10 腹节背板明显扩展和雌性前翅相互重叠。因而建议将其移到异饰肛螽属 Acosemtura。

分布: 中国 (四川)。

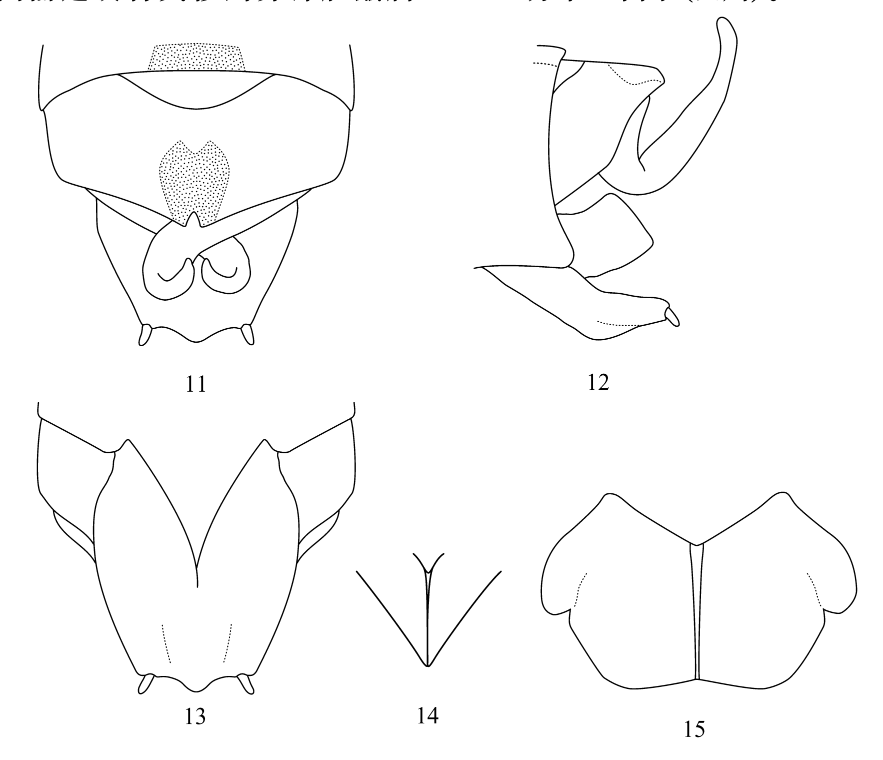


图 11～15 长尾异饰肛螽, 新种 *Acosmetura longicercatca* sp. nov.
11. 雄性腹端背面观 (end of male abdomen, dorsal view) 12. 雄性腹端侧面观 (end of male abdomen, lateral view) 13. 雄性腹端腹面观 (end of male abdomen, ventral view) 14. 雄性生殖器端部背面观 (apex of male genitalia, dorsal view) 15. 雌性下生殖板腹面观 (subgenital plate of female, ventral view)

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FOUR NEW SPECIES OF THE GENUS ACOSMETURA FROM CHINA (ORTHOPTERA, TETTIGONIOIDEA, MECONEMATIDAE)

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Abstract This paper reviews the species of the genus Acometura from China and describs four new species. A key to the species of the genus is given. All type specimens are deposited in the Shanghai Entomology Museum, the Chinese Academy of Sciences.

Key to the species of genus Acometura

1 (18) Dorsal surface of body with a longitudinal brown band
2 (9) Apex of hind femora not darkish
3 (6) Male cerci short and covered by 10th abdominal tergite; subgenital plate of female rounded
4 (5) Male 10th abdominal tergite with pointed lobes, apex of genitalia up-curved; female subgenital plate with a medial keel ············ ······································· A. brevicerca Liu, 2000
5 (4) Male 10th abdominal tergite with rounded lobes, apex of genitalia depressed; female subgenital plate without a medial keel ········· ·· A. bilobata sp. nov.
6 (3) Male cerci long, not covered by 10th abdominal tergite; female subgenital plate not rounded
7 (8) Female subgenital plate with a longitudinal groove; male cerci forcipated ································ A. forcipata sp. nov.
8 (7) Female subgenital plate longer than wide, with concave hind margin; male unknown ··············· A. emarginata Liu, 2000
9 (2) Apex of hind femora darkish
10 (11) Lateral lobe of pronotum with brown margins; male cerci covered by 10th abdominal tergite; female subgenital plate with rounded hind margin ··············· A. platycata (Shi et Zheng, 1994)
11 (10) Lateral lobe of pronotum without brown margins
12 (15) Hind femora not striated on the internal and external face
13 (14) Female subgenital plate with lateral keels, hind margin roundly truncated ··································· A. carinata sp. nov.
14 (13) Female subgenital plate without lateral keels, hind margin with a shallow incision ··············· A. nigrovittata (Liu et Bi, 1994)
15 (12) Hind femora striated with brown on the internal and external face
16 (17) Male 10th abdominal tergite with a small spine at middle of hind margin; female unknown ··· ·················· A. nigrogeniculata (Liu et Wang, 1998)
17 (16) Male 10th abdominal tergite with a small incision at middle of hind margin; female subgenital plate with lateral projection ············ ······································ A. longicercata sp. nov.
18 (1) Dorsal surface of body without a longitudinal brown band
19 (20) Male cerci strongly incurved, almost covered by the 10th abdominal tergite; subgenital plate of female without lateral keels ··························· A. yachowensis (Tinkham, 1944)
20 (19) Male cerci straight, not covered by the 10th abdominal tergite; subgenital plate of female with distinct lateral keels ··············· ································ A. emeica Liu et Zhou, 2007

1 Acosmetura bilobata sp. nov. (Figs. 1-4)

Remarks. This new species is similar to A. brevicerca Liu, 2000 and A. yachowensis (Tinkham, 1944), but differs from the first species in the male 10th abdominal tergite with rounded lobes, apex of genitalia depressed, female subgenital plate without a medial keel, and from the second species in the dorsal surface of body with a longitudinal brown band, hind femora striated with brown on the internal and external face and male cerci with hook-shaped apex.

Measurements. Body ♂7.0, ♀10.0 mm; pronotum ♂3.3, ♀3.0 mm; tegmen ♂1.5, ♀0.8 mm; hind femur ♂7.0, ♀7.5 mm; ovipositor 5.0 mm.

Holotype ♂, Sichuan (Heixuangou Station of Labahe Nature Reserve, TianQuan), 2 000 m, 28 July 2007, collected by LIU Xian-Wei et al. Paratypes: 8 ♂♂, 14 ♀♀, same data as holotype.

Etymology. The specific name is derived from the Latin word "bilobatus" (= bilobed), and with combination of the feminine suffix "-a", the referring to the bilobed 10th abdominal tergite of male.

Distribution. China (Sichuan).

2 Acosmetura forcipata sp. nov. (Figs. 5-8)

Remarks. This new species is similar to A. emarginata Liu, 2000, but differs in the female subgenital plate with a longitudinal groove; male cerci forcipated.

Measurements. Body ♂9.0-10.0, ♀9.5-10.0 mm; pronotum ♂3.0, ♀3.0 mm; tegmen ♂0.8, ♀0.5 mm; hind femur ♂7.5-8.5, ♀9.0 mm; ovipositor 4.5-5.0 mm.

Holotype ♂, Sichuan (Gongyihai station of Liziping Nature Reserve, Shimian), 2 100 m, 22-25 July 2007, collected by LIU Xian-Wei et al. Paratypes: 3 ♂♂, 7 ♀♀, same data as holotype.

Etymology. The specific name is derived from the Latin word "forcipatus" (= forcipated), and with combination of the feminine suffix "-a", referring to the forcipated cerci of male.

Distribution. China (Sichuan).

3 Acosmetura carinata sp. nov. (Figs. 9-10)

Remarks. This new species is similar to A. nigrovittata (Liu et Bi, 1994), but differs in the female subgenital plate with lateral keels, hind margin truncate.

Measurements. ♀Body 11.0 mm, pronotum 4.5 mm, tegmen 1.0 mm, hind femur 9.0 mm, ovipositor 6.5 mm.

Holotype ♀, Sichuan (Wuxiangang, Emeishan), 700 m, 4 Aug. 2007, collected by LIU Xian-Wei et al.

Etymology. The specific name is derived from the Latin word "carinatus" (= keeled), and with combination of the feminine suffix "-a", referring to the distinctly keeled subgenital plate of female.

Distribution. China (Sichuan).

4 Acosmetura longicercata sp. nov. (Figs. 11-15)

This new species is similar to A. nigrogeniculata (Liu

et Wang, 1998), but differs in the male 10th abdominal tergite with a small incision at middle of hind margin and female subgenital plate with lateral projection.

Measurements. Body ♂10.0, ♀12.0 mm; pronotum ♂5.0, ♀5.0 mm; tegmen ♂1.5, ♀0.5 mm; hind femur ♂10.0, ♀11.0 mm; ovipositor 6.5 mm.

Holotype ♂, Zhejiang (Tianmushan), 1 100 m, 1 July 2007, collected by BI Wen-Xuan. Paratypes 3 ♀♀, same data as holotype.

Key words *Acometura*, Meconematidae, new species, China.

Etymology. The specific name is derived from the Latin words "*longus*" plus "*cercatus*" (= long, tailed), and with combination of the feminine suffix "-a", treferring to the extremely elongate cerci of male.

Distribution. China (Zhejiang).

5 *Acosmetura platycata* **(**Shi et Zheng**, 1994)** comb**.** nov**.**

Phlugiolopsis platycata Shi et Zheng, 1994: 44-46; Shi et Ou, 2005: 359.

Distribution. China (Sichuan).